

## VOICE RECORDING CARD

This application is a continuation of application Ser. No. 761,035, filed July 31, 1985, now abandoned.

### BACKGROUND OF THE INVENTION

#### 1. Field of the Invention

The present invention relates to a voice recording card and particularly to a voice recording card capable of recording a message and the like, which is inserted into a transmitting and receiving apparatus such as a telephone so that a message is transmitted and received.

#### 2. Description of the Prior Art

In the prior art there is no system for transmission of a message by connecting a card where the recorded message is used with a transmitting and receiving apparatus such as a telephone. As a device similar to this, a telephone message recorder is known. In such a telephone message recorder, a message for example that the person expected to answer the phone call is not at home has been recorded in advance in a magnetic tape and when a phone call is made, the recorded message is transmitted to the person making the phone call and a message from this person is recorded. Thus, such a telephone message recorder operates only when a call is made from the other party. In another example, a message has been recorded in advance in a conventional recorder and at the time of making a phone call the handset of the telephone is put close to the recorder reproducing the message and thus the message can be transmitted. However, this case does not adopt a system for transmitting an electric signal from the recorder directly to the telephone.

It sometimes happens that when one wants to give a message to his family or to his friend by telephone, the message cannot be transmitted because a public telephone is used by someone else or the person whom the call is made is not at home. In addition, there is a case in which it is sufficient to leave a message and one does not want to talk with the other party. Such inconveniences concerning the telephone are more or less experienced by everyone. Therefore, a system has been desired in which a message can be automatically given to the person to whom a phone call is made even if that person is out, for example, at the time of the call.

### SUMMARY OF THE INVENTION

Accordingly, a primary object of the present invention is to provide a new record medium which can be used in such a system and by which a message and the like can be recorded.

The present invention is a voice recording card for use in a transmitting and receiving apparatus, this voice recording card comprising: a recording mode designating key for designating a voice recording mode; voice input converting means being enabled in response to an input by the recording mode designating key for converting voice input information to an electric signal; storing means for storing the voice information from the voice input converting means; and interface means provided for the purpose of transmitting the information stored in the storing means and having a transmitting contact to be connected with the transmitting and receiving apparatus.

The above stated card may further comprise analog-to-digital converting means for converting an analog signal entered by the voice input converting means to a

digital signal and in this case, the storing means may be a digital integrated circuit memory. Further, for the purpose of recording into the above stated card, the information received based on the reception of the information from the above stated transmitting and receiving apparatus, the above stated interface means may be adapted to make a bidirectional communication of the information between the storing means and the transmitting and receiving apparatus so that the information received via the interface means from the transmitting and receiving apparatus can be stored in the above stated storing means. In that case, in order to reproduce as aural information, the digital information stored in the storing means, the above stated card comprises: a reproduction mode designating key for designating a reproduction mode; digital-to-analog converting means being enabled in response to an input by the reproduction mode designating key for converting the digital data stored in the storing means to an analog electric signal; and voice output converting means for reproducing the converted analog electric signal as a voice. The above stated card may further comprise a transmission mode designating key for designating a transmission mode and a receiving mode designating key for designating a receiving mode. Further, the above stated card may comprise control means for making control so that the above stated respective means perform functionally recording, transmitting, receiving and reproducing operations corresponding to the designated modes.

In operation, when an input is applied by means of the recording mode designating key, the voice input converting means is enabled. The information entered from the voice input means is converted to digital data by the analog-to-digital converting means and the digital data is stored in the storing means. In response to an input by the transmission mode designating key, the data stored in the storing means is transmitted to the transmitting and receiving apparatus via the contact of the interface means. In response to an input by the receiving mode designating key, the data received by the transmitting and receiving means is stored in the storing means via the contact of the interface means. When an input is applied by means of the reproduction mode designating key, the data stored in the storing means is converted to an analog electric signal by the digital-to-analog converting means and the analog electric signal is further converted to an aural signal by the voice output converting means whereby the aural signal is reproduced. The control means controls the above stated respective means to perform recording, transmitting, receiving and reproducing operations in response to the inputs by the above stated respective keys.

The above and other objects, features, aspects and advantages of the present invention will become more apparent from the following detailed description of the present invention when taken in conjunction with the accompanying drawings.

### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows the appearance of the front surface of a card of an embodiment of the present invention;

FIG. 2 shows the appearance of the back surface of the card shown in FIG. 1;

FIG. 3 is a schematic block diagram where a card of an embodiment of the present invention is adapted to communicate with an external transmitting and receiving apparatus in the form of digital data;